

Reply to Office action of 04/02/2003

This listing of claims will replace all prior versions, and the listings of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A wafer area pressure confinement apparatus, comprised of a ring manufactured such that ~~at least one~~ a hanging bore is present within said ring;

36 said hanging bore ~~receivably allowing further comprising~~ a mating portion attached to the interior of a chamber to receive and couple said ring to a hanger suspended in a wafer processing chamber.

Claim 2 (currently amended): The wafer area pressure confinement apparatus of claim 1, ~~wherein said further comprising~~ at least one additional hanging bore. ~~numbers three hanging bores spaced at 120 degree intervals.~~

Claim 3 (original): The wafer area pressure confinement apparatus of claim 1, wherein said hanging bore is twistingly attached to an ~~said~~ interior of said wafer processing chamber.

Claim 4 (previously amended): The wafer area pressure confinement apparatus according to claim 1, wherein said hanging bore is twistingly attached to said interior of said chamber via chamber plungers.

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Claim 5 (currently amended): The wafer area pressure confinement apparatus of claim 1, wherein said hanging bore mates and aligns with a the hanger ~~twist and lock adapter~~ ~~by aligning said adapter with said hanging bore, and;~~

~~moving said pressure confinement apparatus vertical to said adapter such that said adapter fits in said forward portion of said hanging bore and whereby a 5 degree twist of said wafer area pressure confinement apparatus attaches said adapter to the rearward portion of said hanging bore.~~

Claim 6 (original): The wafer area pressure confinement apparatus of claim 1, wherein said ring is manufactured from a dielectric material.

Claim 7 (original): The wafer area pressure confinement apparatus of claim 6, wherein said dielectric material is quartz.

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Claim 8 (canceled)

Claim 9 (currently amended) A plasma processing chamber comprising:
means for housing a gaseous medium useful for etching;
a parallel pair of electrodes defining therebetween an interaction space where a plasma capable of etching a workpiece supported on one of the electrodes is generated when radio-frequency energy is provided for establishing a discharge between the electrodes for ionizing the gaseous medium;
a stack of ~~at least three~~ rings, which are spaced apart from each other to form slots therebetween and are positioned to surround the interaction space, for controlling the exit of

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spent gases and for neutralizing charged particles as they exit the interaction space and thereby for confining the discharge essentially to the interaction space;

the rings capable of being attached to chamber plungers through the use of one of a plurality of hanging bores being suspended on hangers.

~~said stack of at least three rings twistingly attached to chamber plungers through the use of hanging bores manufactured in each of said at least three rings;~~

~~a first radio frequency voltage source having a frequency in the range of about 1.5 to 2.5 megahertz;~~

~~a second radio frequency voltage source having a frequency in the range of about 25 to 30 megahertz;~~

~~the first source being coupled to the first electrode by way of an impedance matching circuit and to a ground return thereof by way of a low pass filter; and~~

~~the second radio frequency voltage source being coupled to the second by way of an impedance matching circuit and to a ground return thereof by way of a high pass filter.~~

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Claim 10 (original): A confinement assembly which comprises:

a circular ring;

hanging bores manufactured therein by drilling two circular bores; a receiving and locking bore, offset from one another but in close proximity;

the first receiving bore's drilling diameter being consistent throughout the depth of the drilling process;

the second locking bore's drilling diameter consistent with the first receiving bores diameter for a portion of the drill and then reduced for the remaining portion of the drill.

Claim 11 (new): The wafer area pressure confinement apparatus of claim 5, wherein the ring is locked to the wafer pressure confinement apparatus by moving the ring vertically relative to the hanger positioned in the hanging bore and then rotating the ring into a locked position.

Claim 12 (new): The wafer area pressure confinement apparatus of claim 1, wherein the hanger comprises at least one step, the step providing a gap between the rings.

Claim 13 (new): The wafer area pressure confinement apparatus of claim 9, wherein the ring is locked to the wafer pressure confinement apparatus by moving the ring vertically relative to the hanger positioned in the hanging bore and then rotating the ring into a locked position.

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Claim 14 (new): The wafer area pressure confinement apparatus of claim 9, wherein the hanger comprises at least one step, the step providing a gap between the rings.
